

COMMUNICATIONS IN

CMO Since 1986

# MARS

No. **443**

25 January 2016

OBSERVATIONS

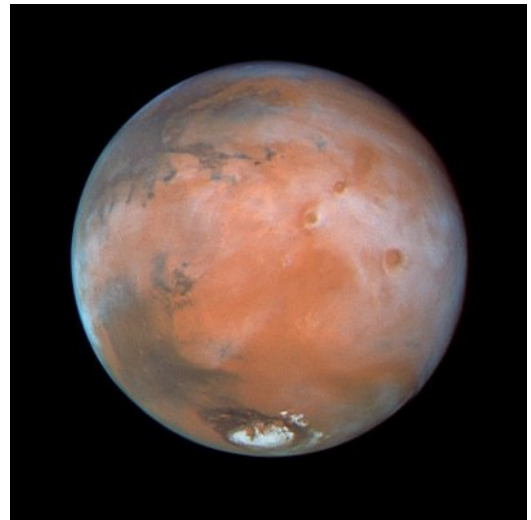
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30th Anniversary of the CMO

『火星通信』參拾週年紀念

30<sup>th</sup>



HST Mars image in 1997/NASA

Anniversary

of

The CMO

25 January 1986 ⇒ 25 January 2016

## The 30th Anniversary is a Time to Celebrate the Existence of the CMO.

By

**Samuel WHITBY**

One might start by remembering an earlier era.

**I**N 1965 I spent a week or so with my grandparents. Granddaddy got up early, and my day started with his. Before it got light we fed the pigs and cows. One morning with intense delight I noticed an unusually prominent comet in our southeastern sky. The tail was easily seen to be 25 degrees long, perhaps even longer. There was nothing about the comet in our newspaper. I saw no mention of the comet on television. I did not know that the comet had been visible in broad daylight only days before I saw it. Unable to learn the name of the comet I joked that I had independently discovered it and called it Comet Whitby. In fact it was about a month before *Sky and Telescope* identified the spectacular visitor as Comet Ikeya/Seki.

For what it is worth, my favorite science teacher thought it was too much trouble to



get up early enough to see the comet. I think he missed the comet of the century.

Such slow communication was not unusual back in the prehistoric days of my youth. I sort of expected it. There were unfortunate consequences, however. Planetary events could be over before potential observers could learn of them. There was a definite need for prompt notification. When a dust storm began on our Red Planet, for example, people needed to be notified, in order to compile as complete a record as possible. Mars needed to be observed daily, and the observations should be shared.

One of the answers to the problem of slow communication was our beloved CMO. We could get a much earlier sense of Martian weather, including dust storms, and we could notify each other. In the case of unusual events. The close similarity between the rotation periods of Earth and Mars meant that if we wanted a record of the whole planet, we must have observers from around the world. The CMO welcomed observers from different countries, and it built up a dedicated group of observers who would keep Mars under almost continuous observation. I think that encouraging people to cooperate and work together may be the most important achievement.

I met some very knowledgeable people who taught me a lot. I was not working so

hard when there were other people working as hard or harder. It was helpful, if not necessarily pleasant, to have our work analyzed and critiqued, promptly. If we did something really dumb, we could count on our respected editor to let us know, promptly.

When the internet made almost instant communication possible, the observers were already in place, trained by Dr MINAMI and

colleagues.

I would like to extend congratulations to Dr MINAMI for his establishment of the CMO and for his reaching another birthday. Happy Birthday! And many more, my friend!

Readers of the CMO may enjoy a poem that I wrote about our Red Planet.

### The Color of Mars

Sandburg said Lincoln's Secretary of War  
 Would charge into the President's Oval Office  
 With such a look of bellicosity  
 That Lincoln would ask, "What can I do for you, Mars?"  
 Mars may be red like blood in times of war  
 Or red like an impatient, angry face  
 Which leads one to think of Mars as a god of war,  
 But Mars may also be red like roses or rubies  
 Or a sweetheart's lips all puckered for a kiss.  
 Actual deserts of Mars, if humans colonized,  
 Would only draw eyes toward Mother Earth,  
 Reminding us to appreciate our home.  
 Mars would be then something very rare,  
 A world to understand and never fight for.

Carl Sandburg (1878-1967), a poet about the same age as Robert Frost (1874-1963), wrote a biography of Abraham Lincoln. The biography was a great financial success for Sandburg, but it was not held in as high regard by historians, who tended to dismiss it as hagiography. □

## The CMO Started to Be Published in 1986.....

By

Tadashi ASADA

It is now our pleasure to celebrate the 30<sup>th</sup> Anniversary of our Bulletin CMO (*Communications in Mars Observations*). Since I have been involved in

this CMO project from the outset, I would like to spell here some of my memories around the first period from 1986 for a few years. The chief editor

of the CMO, Dr. Masatsugu MINAMI, was senior to me by about 15 years, and when I was a student of the Department of Astrophysics, Kyoto University, he was already working for the Research Institute for Mathematical Sciences (RIMS), Kyoto University. He was also using occasionally a 15cm refractor at the rooftop of the Astrophysics Department, where I often met with him, and I also remember the period when we, just two, went on reading once a week a Japanese translation of *Der Neue Kosmos* by A. UNSÖLD at his study room of the RIMS which was just one block away from the building of the Astrophysics Department.

It was about two years after I found a job at a university in Kyushu when the CMO was created. I received a letter dated 20 December 1985 from MINAMI-san which read

*"I am planning to publish the CMO from January. I will publish a few issues by myself, so can you print and send them from March? ....(the rest is omitted)"*

At that time, Dr. MINAMI was using a Japanese word-processor of the same type as I used, and I used otherwise a PC for instance for printing tack seals. I have long thought that I myself produced the CMO issues by a xerographic printer from the outset, but there was something slip of my memory, and in reality I must have engaged in the work after he visited Taiwan. He was really planning to go to Taiwan from February 1986 in order to watch the 1986 Mars since the planet shined higher in Taiwan than in Japan by 10 degrees. In a letter dated 24 January 1986, he wrote to me:

*"I completed the first issue of CMO n°001. I will send them to the people in the mailing list enclosed. I asked for them to send postage stamps to you, but I don't know how many people do so. Anyway I will soon edit the second issue, and I will send all copies of CMO n°002 to you. Can you then dispatch them out? Please make tack seals as soon as possible. ...."*

I thus began to send out the CMO issues from

CMO n°002. At that time, I was single and had enough time for the CMO job.

According to MINAMI's memory, the issue CMO n°001 was completed on 23 January 1986, and he sent out them on 24 and 25 January. The date of publication was fixed on 25 January 1986, and this became traditional. However since 1986 was the year the planet favorably approached, we decided to publish the Bulletin every two weeks for more than one year. So the second issue CMO n°002 was dated 10 February 1986. Apparently CMO n°001 and n°002 made by MINAMI were the good samples for my later work. CMO n°005 (25 March 1986) proves however that the whole pages were typed by me because the English font used was different than the one MINAMI would like to use. They show that already on those days I was typing the articles hand-written by MINAMI at Taipei. I remember his handwriting was sometimes illegible and difficult to decipher (at those times the Internet and emails were not yet widespread). Furthermore the publications were bimonthly and hence as soon as one issue was dispatched, another set of materials for the next issue came from Taiwan by Express deliveries. However, MINAMI advised me in advance that I should use some outputs of the list of References related with Mars which I had previously constructed to edit the pages as sampled in n°002. And from CMO n°003 a text of the talk by Tsuneo SAHEKI who delivered it in November 1985 at Fukui was used serially. SAHEKI's talk was concerned with his 50 years observations of the planet Mars, and was said interesting by the older OAA members.

Here some of the items treated on the early issues are picked out: At the first page of the first issue (CMO n°001) shown was a big Martian disk with grids on 16 July 1986 at 11h GMT ( $\phi=5^{\circ}\text{S}$ ,  $\delta=23.2''$ ,  $\lambda=206^{\circ}\text{Ls}$ ) when the planet could be closest to the Earth. This was made plotted by MINAMI by the use of a big computer of the RIMS. Already the

M and N lines are shown (where the intersection of M and N corresponds to the sub-Solar-point) and this type of grid disks has ever been used in the CMO. The second page recorded the *Foreword* by T. SAHEKI, Director of the OAA Mars Section at the time, together with two drawings made by him in 1954. He expresses his expectation to this chronicle, and recalls the time when he started his career as a young Mars observer. In 1935 he was inspired by a great number of letters sent from E. DATÉ. In 1937 when he stayed at the Kwasan Observatory, Kyoto University, he joined a group made of KIBÉ, DATÉ and MAÉDA, met them once a week in Kyoto, and pooled information. He considered it was necessary to communicate mutually among the observers. He wanted the members to use this chronicle as a means by which they could freely communicate, to publish their methods and results and to inform the editors of alternative methods or references to improve the results published here. At a corner of the third page, it was informed that this CMO would be edited by the board made of T. ASADA, M. MINAMI and T. NAKAJIMA (addresses of them are shown). At the 4<sup>th</sup> and 5<sup>th</sup> pages, the corner of the Letters to the Editors (LtE) was opened and some abbreviations we use in the CMO are explained such as  $\omega$ ,  $\phi$ ,  $\delta$  and so on. It was asked to use as the observation time the Greenwich Mean Time (GMT). At 6<sup>th</sup> and 7<sup>th</sup> pages, it was described a series of the grid disks which depict relative sizes of the angular diameters of Mars from the beginning of 1986 to 1 July 1986, just after opposition by using eight grid disks. The 8<sup>th</sup> page is the last where some remarks and reports are given by the Secretary. At that time, M. MINAMI was the Secretary of the OAA Mars Section. It was reported that MINAMI started his routine observation of Mars on 8 December 1985 by the use of a 20cm speculum telescope at Ōtsu, Shiga Prefecture. He however used, on the New Year day of 1986, a newly furnished 20cm refractor together with Takashi NAKAJIMA at the Observatory of the Fukui City Museum of

Natural History. The final page was closed by an Editor's Note.

CMO n°002 (10 February 1986 issue) shows first a set of four drawings by Tsuneo SAHEKI and secondly another set of four drawings described by Sadao MURAYAMA, both being made in 1954. The main item associated was MINAMI's article entitled "*Mars in 1954 vs Mars in 1986.*" In a Figure, it was shown how the latitude of the sub-Earth point varied in 1954 and 1986 during the period from  $\lambda=135^\circ\text{Ls}$  to  $\lambda=175^\circ\text{Ls}$ . They behaved rather similarly, while the case in 1969 proved quite different. MINAMI also alludes to the photographic work in 1954 of W. S. FINSEN as well as the work of the Lowell Observatory on the occasion of the Lamont-Hassey expedition in 1954. MINAMI also cited a Japanese report by MURAYAMA concerning the 1954 Mars, MINAMI alluding to the writing style of MURAYAMA to be interesting.

From this CMO n°002, as said before, I started to output a list of References on Mars.

CMO n°003 (25 February 1986 issue) describes MINAMI's "*On the Determination of the Polar Cap*" with some geometric considerations (originally the way due to A. DOLLFUS). This scheme has been repeatedly used in the CMO. As an example a remote sensing image by Mariner 6 on 30 July 1969 at  $\omega=018^\circ\text{W}$  was employed. From this issue the series of the talking text of T. SAHEKI has started to appear as mentioned before.

On 25 February 1986, Dr. MINAMI took a flight from the Ōsaka-Itami Airport to reach Taipei. He stayed at first at the Taipei City Yuan-Shan Observatory which was equipped with a 25cm F15 GOTO refractor. He spent ten months in Taipei by observing Mars at Yuan-Shan on one hand, and on the other hand by giving a series of lectures (once per week) on some mathematical non-linear theories at the Physics Department of the National Taiwan University (and sometimes at the Institute of Physics, Academia Sinica of Taiwan). After ten months,



he returned home in Kyoto on 26 December 1986. By the end of 1986, a total of 23 issues of CMO were published. CMO n°024 was issued on 10 January 1987. Already on 2 January 1987, I met Dr. MINAMI and talked each other and we decided to continue similarly the publications of the CMO as a Bulletin of the 1986 observations of Mars. Henceforth, as I remember, we began to regard my role as an executive secretariat at Munakata, while NAKAJIMA and MINAMI at Fukui should play roles as Editors.

During the period when MINAMI was absent, I tried to plan myself in several ways. In CMO n°005, I made a survey by questionnaire concerning the photographic methods of planetary shooting used by the members on their instruments, emulsions, developing and otherwise the frequency of shooting and so on. Some pieces of aggregations were first published in CMO n°025 (25 January 1987, first anniversary) under the title "On Answers to the Questionnaire. I" and then Part II appeared in CMO n°026 (10 Feb 1987) and Part III in CMO n°027 (25 Feb 1987), and this continued up until Part VII. I likewise asked some members to write something on "Taking Pictures of the Greater Planets" and hence this plan made a series. For instance, Shigemi NUMAZAWA kindly wrote an article "C-8, Canon T-90, H<sub>2</sub> TP and the Tri-color Decompositions" as its 9<sup>th</sup> article in CMO n°026 (10 February 1987).

Returning at home, MINAMI still wrote the report of the OAA Mars Section in Kyoto. In the report in CMO n°025 (25 January 1987), the observations made at the first half of January 1987 were described: It was reported Le-Hsia CHANG alone at the Yuan-Shan Observatory obtained still a total of 40 drawings during the first half of January.

In the LtE corner in CMO n°026 (10 February 1987), recorded was Don PARKER's letter dated 25 January 1987:

*"Dear Dr. Asada, Thank you so much for sending me the 23 issues of the OAA Communications*

*in Mars Observations. They are most informative and could not have arrived at a better time! Jeff Beish, the other ALPO Mars recorders and I were becoming depressed over the sad state of planetary astronomy when your excellent publications arrived. They show that there is still fine Mars research being done. The observations described will help us considerably in writing our 1986 apparition report.*

*We would like to continue cooperating with the OAA and will send you a number of our photos, drawings and polar cap micrometer measurements within 2~3 months. In the meantime, I have enclosed a few issues of our 'Martian Chronicles' ....."*

In response to this, a long series of "Some Martian Surface Features Appeared on the D. C. Parker's Photos Taken in 1986" began from CMO n°033 (25 May 1987) p.0261. In the usual Xerography it is impossible to reproduce the fine original images, and so we tried to give a review of every image by attaching some remarks in Japanese and English (due to MINAMI) in addition to the original data. The B&W TP2415 images were main, but the Violet images were produced from ED200 color images by using the B filter. Since we dealt with just about ten images each time, the series of this corner continued long. The last one was the 15<sup>th</sup> and appeared in CMO n°048 (25 March 1988 issue) at p0414. A total of 67 images thus were commented.

In CMO n°042 (25 December 1987), similar trial was given to Don PARKER's color slides obtained in 1986 as "Colour Photos of Mars in 1986 Taken by D. C. Parker" (at p0372) accompanied by MINAMI's review (one and half pages). As to these slides, Don PARKER told in the LtE of CMO n°042 (25 December 1987) as follows:

*"Dear Masatsugu, Thank you for your letter of 6 November. . . . I have also enclosed copies of a number of slides from 1986. While most of these were taken at roughly the same times as the black-and-white photos, perhaps you can obtain more information from them. I really appreciate*

*your analysis of my photos --- You have picked out some details which Jeff and I overlooked! . . . Again, thank you for sending us the Communications. Jeff and I are looking forward to working with you in 1988."*

We should like to note that in the LtE corner of CMO n°033 (25 May 1987) a letter dated 12 April 1987 of Richard McKIM, BAA, is recorded:

*"Dear Dr. Asada, Thank you for your sending the BAA Mars Group your excellent OAA Mars Section Communications. These are of great value because of the longitude difference between Japan and the UK. I would welcome to any further copies. . . . I was fortunate to accompany Prof. Jean Dragesco on his trip to the famous Pic du Midi Observatory for two weeks in July last. We had half an hour of perfect seeing with 42-inch (1.06 metre) Cassegrain telescope there on 15<sup>th</sup> July, with the Solis Lacus central. It was most extraordinary sight. . . . Looking forward to much cooperation, I remain yours sincerely."*

In CMO n°036 (25 July 1987), it is noted that I was collaborating with Dr. MINAMI in Kyoto. I remember it was the summer period when I stayed at the Kwasan Observatory to observe Jupiter. The printing was made at the RIMS. I would like to further note that the LtE corner of this issue recorded a letter dated 23 June sent from Richard BAUM, Chester: It reads partly at the beginning as follows:

*"Dear Dr. Asada, Thank you very much for the copies of the OAA Mars Bulletin . . . . The clear excellence of Japanese Mars Observers is demonstrated in your bulletins which I avow owe much to your own enthusiasm and skill as much as to your colleagues. It seems to me that a growing "Brotherhood of Mars Observers" is coming into being and it is good we can exchange our results in so harmonious a manner. It has been my fervent wish such continues and grows. ...."*

Since CMO n°037 was dated 25 August 1987, we know the publication was reduced to once a month.

Really CMO n°038 was dated 15 September 1987. The issues in October and November are the same.

It was already announced that MINAMI had secured a total of 998 drawings during the 1986 apparition mainly at Taipei. In the LtE of CMO n°039 (15 October 1987), Jean DRAGESCO wrote as follows:

*"Je suis un de vos grands admirateurs: 998 dessins de Mars! Vous avez battu les records du prof. Miyamoto qui fut de mes amis. ...."*

Jean DRAGESCO was a professor who was just above mentioned by Richard McKIM, and was already widely known in 1986 as the observer who produced a very excellent TP image of the region of Solis Lacus on 15 July at Pic du Midi.

CMO n°040 was published on 15 November 1987, but from December, the CMO was published twice a month again. CMO n°041 (10 December 1987) might be said to contain a historical story concerning a trouble inside the SAF. The trouble occurred due to the fact that the Pic du Midi Observatory rejected Jean DRAGESCO to use the 105cm Cass in the 1988 apparition. In this issue we can read the indignation of professor DRAGESCO.

CMO n°042 (25 December 1987) was the first issue of the CMO which treated the upcoming 1988 great apparition. That is, there has been aroused a growing tendency for the observations of Mars in 1988. MINAMI communicated that he started to observe the red planet from 13 December 1987, though the angular diameter  $\delta$  was just above 4" by the use of the 20cm speculum at Ōtsu. This issue also brought a news of Don PARKER: A corner of this issue says: "According to a private communication from Don PARKER, he already finished his first Mars observation of this apparition: When he was observing Mercury, 'the seeing suddenly became excellent, as often happens around the sunrise', and so he took occasion to see Mars and 'was able to discern some details --- especially an oro-

graphic cloud over Elysium'."

MINAMI-san had an intention to go again to the Taipei City Observatory also in 1988 to observe Mars. At the case of 1986, I was single and had a lot of free time, but in 1987 I got married and we were going to be blessed with a baby in 1988, and hence I was not sure whether I could have enough time, while MINAMI-san assured me that I would become free from his execrable hand-writing at least since he intended to bring the familiar word-processor with him to Yuan-Shan and thus I was forced to leave the matter to Heaven.

On 12 May 1988, we made a rendezvous at a bench to chat on a platform of Kyoto JR station when I got off from a bullet train from Tokyo. I don't quite remember but he gave me a set of matrix pages of CMO n°051.

In fact, on 1 June 1988, MINAMI-san boarded an airplane, hanging the word-processor from his shoulder and went to Taipei. According to MINAMI, he finished on 22 June to type out the materials necessary for CMO n°054 in the library of the Yuan-Shan Observatory and sent out them to me by airmail.

The planet Mars in 1988 was at opposition on 28 September (closest to the Earth on 22 September). CMO n°058 (25 August 1988 issue) showed the trend of the angular diameter with grids from the opposition day to 2 January 1989 ( $\delta=9.5''$ ). On 24 November, MINAMI sorted out the materials of CMO n°064 (25 November 1988 issue), and on 30 November he left Taipei and safely returned to Kyoto. During the half a year period when he stayed in Yuan-Shan, he secured a total of 516 drawings.

In CMO n°065 (10 December 1988), which was manipulated wholly in Japan, the OAA observations at the latter part of November and some troubles concerning a dust-like matter were written by MINAMI. On the eve of the last day, it was written

that Director Tsai invited Mr. PK CHEN and MINAMI to the Shilin Night Market. It was also reported that when MINAMI-san took a flight from Taipei, Professor K.-L. CHANG quite helped him to the airport because he was carrying a heavy baggage. MINAMI-san was very thankful to the members at Yuan-Shan and staffs of the National Taiwan University.

At the very beginning of the year 1989, there was held a CMO meeting organized by Takashi NAKAJIMA at the Fukui City Museum of Natural History, and joined were some of the main members of the OAA Mars Section: Tomio AKUTSU from Tochigi, Teruaki KUMAMORI from Osaka, Isao MIYAZAKI from Okinawa, and MINAMI-san was there at Fukui. I also joined from Kanazawa together with Hideo NAKASHIMA. The topic of conversations was of course their Mars observations in 1988. Especially the photographic images secured by I. MIYAZAKI were the focus of attention.

In 1989, I also participated in the publications of the CMO as one of the trio. One of the projects on which I singly concentrated was a creation of a list of the 1988 Mars observations made at the Far East. The First Part was published in CMO n°074 which covered 1895 numbers of observations, and the Second Part in CMO n°079 (10 November 1989 issue) listed 1422 numbers of observations. Each observation was characterized by the following items: Number, Name code, Date,  $\omega$ ,  $\phi$ , Ls,  $\delta$ ,  $\iota$ , Apparatus, and Remarks. CMO n°074 and CMO n°079 became quite bulky. We left out the LtE corner in 1988 when we were busy, and so I restored by typing all LtE which were omitted. This was serially published as *LtE special*, maybe serialized by dividing into about five parts.

CMO n°086 (25 April 1989) was the first issue concerning the next 1990 apparition.

The LtE of CMO n°094 (10 October 1990) contained a letter from Masami MURAKAMI who join-



ed us around the time. In his LtE, he wrote:

*"I (Masami) received with thanks a warm welcome letter from Takashi NAKAJIMA, and also from Tadashi ASADA a letter and CMO's back numbers since CMO n°086. I felt deeply your enthusiasm and fighting spirit toward the Mars observations and to the CMO. ...."*

MURAKAMI-san also reported that he observed since 1986 and he was successful in 1988 in drawings and focusing on the TP2415 by the use of a Nikon 10cm refractor. Later his 10cm OG image taken on 20 August 1988 at  $\omega=000^\circ\text{W}$ ,  $\phi=20^\circ\text{S}$ ,  $\delta=21.8''$ ,  $\lambda=256^\circ\text{Ls}$  was put on the cover of CMO n°116 (25 April 1992) where Novus Mons appeared detached from the spc.

A Notice at the end of CMO n°094 (10 October 1990) was written by T. NAKAJIMA and he announced that because Dr. ASADA was destined to go next year to the US to study, the key secretariat station would be changed (to Fukui) and the content how the situation changed would be announced presently. At the end page (p0834) of CMO n°097 (25 Nov 1990), NAKAJIMA gave a salutation of half a page that MINAMI and NAKAJIMA agreed to pick out NAKAJIMA as a CMO secretariat at Fukui and NAKAJIMA would take over the role played by ASADA, and the new account number was fixed and governed by the CMO Fukui. Thus the last line of CMO n°097, n°098, n°099 all showed the new account number of CMO Fukui. At the opening page of CMO n°100 (10 January 1991), the two names of MINAMI and NAKAJIMA were recorded, but my name was erased at last.

Considerably later, CMO n°171 (25 January 1996) celebrated the 10<sup>th</sup> Anniversary of the CMO: The covers were first color printed by using some Mars images taken by Don PARKER in 1995. On the cover, in place of mine, the name of Akinori NISHITA was given, and thus a new trio was born.

While writing this manuscript, I often felt that

Masatsugu MINAMI must have been especially conscious of Don PARKER and Richard McKIM. Don PARKER was of the same age as MINAMI, and, though Richard McKIM was much younger, MINAMI has respected the long history of the Mars Section of the BAA. Strangely, MINAMI often used the Chinese letters to denote the names of no more than Don PARKER and Richard McKIM as 唐那·派克 and 理查·麥肯 respectively.

I myself was more interested in the planet Jupiter so that I liked the photographs by Don PARKER whatever the planets were. So If I had a chance to go to the US, after passing my CMO secretariat on to NAKAJIMA-san, I thought it would be great if I could see Don PARKER in Florida.

Officially, I was accepted as a visiting associate professor by Prof. Peter GIERASCH of Cornell University, Ithaca, NY, in September 1991. At that time, Carl SAGAN was alive and I often saw him at passage. Peter GIERASCH was well-known as a planetary physicist, and was familiar with the structure of the planetary atmosphere as well as the Martian dust storms. He was awarded the Gerard Kuiper Prize recently in 2014, the Prize being the most distinguished award given by the Division for Planetary Sciences of the American Astronomical Society.

In March 1992, I with my family had a chance to go to Florida. At Ithaca, which is located near the border of Canada, it was snowing, but it looked almost summer-like in Florida. We first visited the Walt Disney world in Orlando, then the Kennedy Space Center at Cape Canaveral, and finally we could meet happily Don PARKER and his friends in Miami. At that time, the cooled CCD camera began to be used for planetary observations, and Don was one of the leading persons by using the famous Spectrasource Lynxx Cooled CCD Camera. We visited Don's home near a canal, and he practically taught me some ways of imaging. At that time he was 53 of age, and looked lively and broad-minded. After some talks, Don and his friends invited us to



go out to dinner. I don't quite remember, but we were along with Jeff BEISH and Carlos HERNANDEZ.

Coincidentally it was the Birthday of my wife, and, to our surprise, they kindly prepared a birthday cake for my wife. It was a great memory for us. Finally Don drove us to the Hotel where we were to stay, but on the way Don was too absorbed in

chatting with someone to turn a corner.

Thus it was only for the first five years out of the 30 years history of the CMO that I helped the CMO practice; while this has been a great experience to me and brought unique and happy memories for me. I do strongly expect that the CMO will be ongoing as long as Dr. M. MINAMI remains healthy. □

### CMO/ISMO 2016 Mars Report #03

## 2016 CMO/ISMO Mars Observations During the First Half of January 2016

♂.....In this half a month period, the planet Mars was proceeding in order in the Virgo constellation, and the apparent declination  $D$  went down to  $12^{\circ}S$ . The Martian season proceeded from  $\lambda=089^{\circ}Ls$  to  $\lambda=096^{\circ}Ls$  during the period, and it just passed the summer solstice of the northern hemisphere. The angular diameter has a bit grown from  $\delta=5.6''$  to  $6.1''$ . The tilt moved from  $\phi=20^{\circ}N$  to  $17^{\circ}N$ . The phase angle  $\alpha$  was  $34^{\circ}\sim 36^{\circ}$ , and the defect illumination of the evening side is large.

♂.....In this period, we received with thanks a total of 14 observational items from five observers. Some observations in December were also received.

**FOSTER, Clyde (CFs)** Centurion, SOUTH AFRICA

2 Sets of RGB + 1 Colour + 3 IR Images (3\*, 9, 15 January 2016)  
36cm SCT @f/22 with an ASI224MC, ASI174MM\*

**JUSTICE, Mark (MJs)** Melbourne, AUSTRALIA

2 Sets of RGB Images (6, 11 January 2016) 30cm Spec with a DMK21AU618

**MORALES RIVERA, Efrain (EMr)** Aguadilla, PUERTO RICO

3 Sets of RGB Images (5, 12, 15 January 2016) 31cm SCT with a Flea 3

**MORITA, Yukio (Mo)** Hatsuka-ichi, Hiroshima, JAPAN

3 Sets of LRGB Images (3, 9 January 2016) 36cm SCT with a Flea 3

**VALIMBERTI, Maurice (MVI)** Melbourne, AUSTRALIA

1 Set of RGB + 1 IR Images (12 January 2016) 36cm SCT @f/20 with an ASI120MM

♂..... We further received from

**JUSTICE, Mark (MJs)** Melbourne, AUSTRALIA

2 Sets of RGB Images (28, 29 December 2015) 30cm Spec with a DMK21AU618

♂..... This time also we review the observations in chronological order.

### 3 January 2016 ( $\lambda=090^\circ\text{Ls}$ , $\delta=5.6''\sim 5.7''$ )

**Clyde FOSTER (CFs)** obtained a set of images by the use of a new camera ASI174MM at  $\omega=080^\circ\text{W}$ . In R and IR there is left a strong ghost arc near the morning limb which spoils the images. The npc and Solis L are well shown, but the light part near the morning limb is not utilised.

**Yukio MORITA (Mo)** provided a set of images at  $\omega=349^\circ\text{W}$ : Some should-be definite markings are not clear, they are all mild. In LRGB, the southern part of M Acidalium looks massive. S Meridiani and S Margaritifer are identified as separated. A light part is visible to far north of S Meridiani, but it seems due to the L image.

### 5 January 2016 ( $\lambda=091^\circ\text{Ls}$ , $\delta=5.7''$ )

**Efrain MORALES (EMr)** made a composite RGB at  $\omega=162^\circ\text{W}$ . It is charming to see a cotton-ball like bright white patch: It is possibly from Olympus Mons, though is highly possible from the Ascræus Cloud. Propontis I is visible at the morning side.

### 6 January 2016 ( $\lambda=091^\circ\text{Ls}\sim 092^\circ\text{Ls}$ , $\delta=5.7''\sim 5.8''$ )

**Mark JUSTICE (MJs)** now entered the stage from Melbourne (though he already started in December. See below). He shot at  $\omega=287^\circ\text{W}$  and obtained an excellent set of RGB images. Hellas is very whitish and beautiful. The relation of Hellas and the spc was once was told by Mn based on the document (淺信) provided by Tadashi ASADA in CMO n°353 at p.Ser2-1021. Around at p.1022 one may find an interesting Figure (from PFS-MEX) in which it was shown how far the ice and mist field stretched out northward to Hellas around at  $\lambda=090^\circ\text{Ls}$ . Note that the white colour of the Hellas is different from the colour of the npc. Olympia is seen detached from the npc. It is very nice to be able to see the densities of the white colour differ in R, G, and B. The white ice/mist looks split. The images of Syrtis Mj and Utopia look definite. The processing of the ghost along the morning limb is close to the passing grade.

### 9 January 2016 ( $\lambda=093^\circ\text{Ls}$ , $\delta=5.8''\sim 5.9''$ )

**CFs** produced by the usual 224MM a set images including an IR685 image at  $\omega=023^\circ\text{W}$ . The ghost arc is now weaker and the composite tells a good atmosphere of M Acidalium. S Meridiani is just to sink, Margaritifer S shows a good looking.

**Mo** produced two sets of images at  $\omega=283^\circ\text{W}$  and at  $\omega=294^\circ\text{W}$ . Syrtis Mj appears differently in R, G, and B, while Hellas is duller.

### 11 January 2016 ( $\lambda=093^\circ\text{Ls}\sim 094^\circ\text{Ls}$ , $\delta=5.9''$ )

**MJs** obtained an RGB composite at  $\omega=242^\circ\text{W}$ . Without the morning ghost, the bright Hellas is caught

near the morning limb. The charming point is that the evening cloud of Elysium Mons stands out in a cotton-ball like near the CM. Usual orographic clouds except for Arsia Mons and Alba Pater attains one of their peaks at  $\lambda=100^\circ\text{Ls}$ . Note that Utopia is also slightly detailed. N Alcyonius is visible in R, and Hesperia is clearly faded above M Cimmerium.

### 12 January 2016 ( $\lambda=094^\circ\text{Ls}$ , $\delta=5.9''-6.0''$ )

**EMr** obtained an RGB composite at  $\omega=107^\circ\text{W}$ . There is recorded a beautiful thin cloud belt from the top of Olympus Mons to the evening Xanthe through the Ascræus Cloud. Usually this is apparent on the B image, but this time the B looks duller (than G?).

**Maurice VALIMBERTI (MVI)** obtained an RGB composite at  $\omega=214^\circ\text{W}$  as well as an IR image at  $\omega=210^\circ\text{W}$ . The white cloud atop Elysium Mons is visible near the CM. M Cimmerium is usually seen as if it suggests a detail: Its west end shows a spike? In, R and IR, Propontis I is obvious. The wavy front of Utopia's southern coast is well shown. However, the B image looks to be too dull to show the markings more sharply.

### 15 January 2016 ( $\lambda=095^\circ\text{Ls}-096^\circ\text{Ls}$ , $\delta=6.1''$ )

**CFs** made again by 224MM an RGB or LRGB image at  $\omega=312^\circ\text{W}$ . Syrtis Mj is large near the evening terminator, from which S Sabæus is pending down to the morning side. M Acidalium is still slim near the morning limb: Its form is good in the IR685 image. Hellas is not clear in G and B, and it is dull also in the composite. On the other hand the npc is very clear in R.

**EMr's** image at  $\omega=051^\circ\text{W}$  is n RGB composite. Miraculously it shows as if a thin mist floats on the surface. The B image is well done, and maybe this created a mist band along the equator. The configuration is this: M Acidalium occupies largely the afternoon side, and Solis L is visible among the upper markings with Ophir being apparent. The npc is not definite.

♂.....**WE FURTHER RECEIVED** two composite images made by **MJs** on 28 December 2015 ( $\lambda=088^\circ\text{Ls}$ ,  $\delta=5.5''$ ) at  $\omega=016^\circ\text{W}$  and on 29 December 2015 at  $\omega=359^\circ\text{W}$ . The former looks better than the one on 29 December: On the composite of 28 December, S Meridiani shows a good shape as well as S Margaritifer. The light and shadow of M Acidalium look natural. The npc is whitish evident, while the B image looks to show too much markings.

♂.....**URLs of the images are listed below:**

#### CFs

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160103/CFs03Jan16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160109/CFs09Jan16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160115/CFs15Jan16.jpg>

#### MJs

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/151228/MJs28Dec15.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/151229/MJs29Dec15.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160106/MJs06Jan16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160111/MJs11Jan16.jpg>

#### EMr

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160105/EMr05Jan16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160112/EMr12Jan16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160115/EMr15Jan16.jpg>



**Mo**<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160103/Mo03Jan16.jpg><http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160109/Mo09Jan16.jpg>**MVI**<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160112/MV112Jan16.jpg>*Masatsugu MINAMI and Masami MURAKAMI*

## *Letters to the Editor*

●.....*Subject: Mars 2016/01/03 0236UT RGB*  
*Received: 3 January 2016 at 22:18 JST*

Hi all, An RGB image set from this morning, centered on the Tharsis Plateau. Possible cloud over Ascraeus Mons and also possibly Olympus Mons?

And off course, very best wishes to you all for the New Year. I am looking forward to the Mars opposition with great interest. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160103/CFs03Jan16.jpg>

○.....*Subject: Mars 2016/01/09 0239UT RGB*  
*Received: 9 January 2016 at 19:57 JST*

Hi all, An absolutely beautiful fresh morning earlier as after a few days of intense heat (we had a new all time record high in Centurion of over 42°C apparently), we had a serious hailstorm followed by very welcome heavy rain yesterday afternoon and evening. An RGB image set from this morning. I returned to the ASI224MC for the colour image. The IR and R images were taken through the respective filters. The G and B images were generated by splitting the channels from the colour image. I am still experimenting with this process and am not sure I am doing it right, as the G image looks very close to the R. Possibly a topic of discussion when I am visiting the BAA in two weeks time? Jim, I am still working on a test program to see what I can do about the *f* limb "contrast arc". The main albedo features showing nicely. I note that other imagers are also picking up the extremely bright southern following/sunlit limb.

Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160109/CFs09Jan16.jpg>

○.....*Subject: Mars 2016/01/15 0239UT Colour*  
*Received: 16 January 2016 at 04:37 JST*

Hi all, After a string of mornings where predawn cloud prevented imaging, a very early morning resulted in me managing to catch Mars before the cloud developed. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160115/CFs15Jan16.jpg>

**Clyde FOSTER** (Centurion, SOUTH AFRICA)

●.....*Subject: Mars - January 5th*  
*Received: 7 January 2016 at 01:04 JST*

Hi Mr. Masatsugu and All!, Here is my latest session from January 5th at average conditions.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160105/EMr05Jan16.jpg>

○.....*Subject: Mars - January 12th*  
*Received: 15 January 2016 at 02:34 JST*

Hi Mr. Masatsugu M., Here is my session on January 12th, 10:22ut.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160112/EMr12Jan16.jpg>

○.....*Subject: - January 15th*  
*Received: 17 January 2016 at 03:56 JST*

Hi Mr. Masatsugu and All!, Here is my session from January 15th.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160115/EMr15Jan16.jpg>

**Efrain MORALES** (Aguadilla, PUERTO RICO)

●.....*Subject: Mars images 29-Dec and 11-Jan*  
*Received: 12 January 2016 at 20:50 JST*

Dear Sirs, Please find the attached Mars image sets, one from 29-Dec-15 taken in poor seeing and one from 11-Jan-15 taken in fair seeing. Thank you for your recent CMO 442, in particular I enjoyed reading the article by Mr. Sheehan. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160111/MJs11Jan16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/151229/MJs29Dec15.jpg>

○.....*Subject: Mars images*  
*Received: 18 January 2016 at 20:49 JST*



Dear Sirs, Please find the attached Mars image set from the 28th December 2015. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/151228/MJs28Dec15.jpg>

**Mark JUSTICE** (Melbourne, AUSTRALIA)

●.....*Subject: Mars 12 January 2016*  
*Received: 14 January 2016 at 19:26 JST*

Good evening all, I have attached an image of Mars taken in above average seeing on the 12th January.

6" now, and getting bigger..... Best wishes

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160112/MV112Jan16.jpg>

**Maurice VALIMBERTI** (Melbourne, AUSTRALIA)

●.....*Subject: Mo03 09Jan\_16*  
*Received: 15 January 2016 at 01:08 JST*

Dear MINAMI-sama, Attached find please the Mars images on 3 and 9 January. I don't think the optical axis of my C-14 is not well adjusted, but the focussing remains poor in my cases. Partly it's because the weather at dawn here has been poor with many clouds. I will next try after making sure the optical axis. With best regards.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160109/Mo09Jan16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160103/Mo03Jan16.jpg>

**Yukio MORITA** (Hiroshima, JAPAN)

●.....*Subject: Responce to your email*  
*Received: 2 January 2016 at 05:20 JST*

Dear Masatsugu, I have written a short essay that you may want to use, and I have written a poem that

seems appropriate. If I keep these works for another day or two, I may be able to improve their quality. Wytan H AUDEN wrote something like that a poem is never finished, just abandoned, and the essay and poem have not been abandoned. My wife, who does not by any means like everything that I write, does like this poem.

We did not have a white Christmas. In fact we have had unusually warm weather. Tyler and I have been wearing shorts and T shirts. The neighborhood turtles still sun themselves. Best wishes

○.....*Subject: Re: CMO*  
*Received: 22 January 2016 at 00:58 JST*

Dear Masatsugu, Thank you for the report on the translation by Dr. KONNAI. I also look forward to the work of Dr. ASADA. Please inform Reiichi that I am very honored to read that he likes my poem.

We are expecting a major snow storm here within the next few days, so we are stockpiling food and fuel and making all sorts of contingency plans. As for me, I hope the weather forecast was somebody's poor joke. This will be the first time in about 40 years that I will not be a public safety worker of some sort. Now I must just stay home and out of the way.

With warm regards,

**Sam WHITBY** (Virginia, the US)



## **International Society of the Mars Observers (ISMO)**

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**CMO n°443 / ISMO n°69 (25 January 2016)**

**Editorial Board:** Tadashi ASADA, Masatsugu MINAMI, Masami MURAKAMI, Takashi NAKAJIMA and Akinori NISHITA



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